KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VP-505
3G HD-SDI to Video Scan Converter

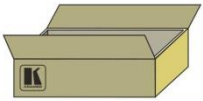
P/N: 2900-300013 Rev 3

VP-505 Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

- **VP-505** 3G HD-DSI to Video Scan Converter
- 1 Power supply (5V DC)
- 4 Rubber feet
- 1 Quick Start sheet



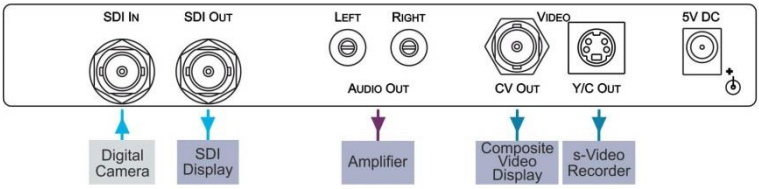
Save the original box and packaging materials in case you need to return your **VP-505** for service.

Step 2: Install the VP-505

Mount the **VP-505** in a rack (using the optional RK-T2B rack adapter) or place on a table.

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your **VP-505**.



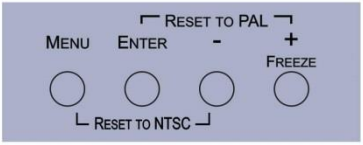
Always use Kramer high-performance cables for connecting AV equipment to the **VP-505.**

Step 4: Connect the power

Connect the 5V DC power adapter to your **VP-505** and plug the adapter into the mains electricity.

Step 5: Operate the VP-505

Set the parameters using the front panel buttons and the On-screen Display (OSD):



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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront video, audio, presentation, and broadcasting professionals on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **VP-505** *3G HD-SDI to Video Scan Converter*, which is ideal for the following typical applications:

- Projection systems in conference rooms, boardrooms, auditoriums, hotels and churches, production studios, rental and staging
- Monitoring of SDI signals using inexpensive video displays
- Displaying down-scaled SDI in legacy systems
- Making video recordings of SDI content

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **VP-505** away from moisture, excessive sunlight and dust

This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

2.2 Safety Instructions

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

2.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

3 Overview

The Kramer **VP-505** *3G HD-SDI to Video Scan Converter* is a high-quality scan converter for down-scaling SDI, HD-SDI and 3G HD-SDI signals to PAL or NTSC video.

The **VP-505** features:

- A maximum data rate of 3Gbps
- An SDI input
- An equalized and re-clocked loop output (up to 3G HD-SDI)
- Multi-standard operation: SDI (SMPTE 259M and SMPTE 344M), HD-SDI (SMPTE 292M) and 3G HD-SDI (SMPTE 424M)
- Simultaneous high-quality composite video and s-Video (Y/C) outputs
- A unbalanced stereo audio output
- An OSD (On-screen Display) accessible via the front panel buttons for easy setup and adjustment
- A built-in ProcAmp for convenient signal adjustment
- A non-volatile memory that retains the last settings used
- A freeze button
- An external 5V DC source, making it suitable for field operation
- Operation directly via the front panel push buttons and the OSD

3.1 Defining the VP-505 3G HD-SDI to Video Scan Converter

This section defines the **VP-505**.

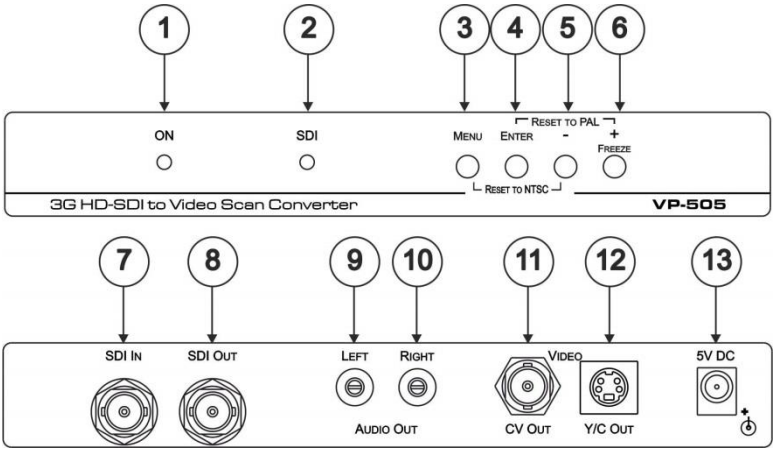

Figure 1: VP-505 3G HD-SDI to Video Scan Converter

#	Feature		Function
1	*ON* LED		Lights green when the unit is powered on
2	*SDI* LED		Lights blue when an SDI signal is detected on the input
3	*MENU* Button		Press to display the OSD (On-screen Display) menu. When the OSD is not displayed, press together with the – button to set the output resolution to NTSC
4	*ENTER* Button		In the OSD, press to select the highlighted menu item. When the OSD is not displayed, press together with the + button to set the output resolution to PAL
5	– Button		In the OSD, press to step up through the options or to decrement the parameter value
6	+ / *FREEZE* Button		In the OSD, press to step down through the options or to increment the parameter value. When the OSD is not displayed, press to freeze the display
7	*SDI IN* BNC Connector		Connect to the SDI source
8	*SDI OUT* BNC Connector		Connect to the SDI acceptor (loop). The signal is re-clocked and equalized
9	*AUDIO OUT*	*LEFT* Channel RCA Connector	Connect to the left channel of the unbalanced stereo audio acceptor
10		*RIGHT* Channel RCA Connector	Connect to the right channel of the unbalanced stereo audio acceptor
11	*CV OUT* BNC Connector		Connect to the composite video acceptor
12	*Y/C OUT* 4-pin Connector		Connect to the Y/C (s-Video) acceptor
13	*5V DC*		Connect to the power adapter, center pin positive

4 Connecting the VP-505

Always switch off the power to each device before connecting it to your **VP-505**. After connecting your **VP-505**, connect its power and then switch on the power to each device.

To connect the **VP-505** as illustrated in the example in Figure 2:

1. Connect the SDI video source (for example, a digital camera) to the SDI IN BNC connector.
2. Connect the SDI OUT BNC connector to the SDI acceptor (for example, an SDI display).
3. Connect the LEFT and RIGHT AUDIO OUT RCA connectors to the audio acceptor (for example, a stereo audio amplifier).
4. Connect the VIDEO CV OUT BNC connector to the composite video acceptor (for example, a composite video display).
5. Connect the VIDEO Y/C OUT 4-pin connector to a Y/C (s-Video) acceptor (for example, an s-Video recorder).
6. Connect the power adapter to the 5V DC power socket and to the mains electricity (not shown in the illustration).

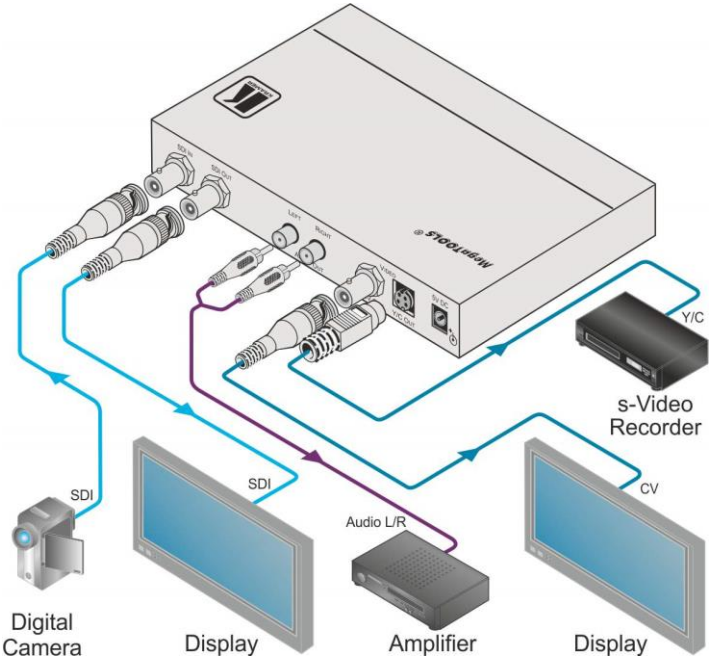

Figure 2: Connecting the VP-505 3G HD-SDI to Video Scan Converter

5 Operating the VP-505 3G HD-SDI to Video Scan Converter

The **VP-505** is operated directly via the front panel buttons (see Section 5.1) and via the OSD menu (see Section 5.2).

5.1 Using the Front Panel Buttons

During normal operation (without the OSD), the front panel buttons perform in the following manner:

- **MENU**: Displays the OSD Main Menu (see Section 5.2.1). Press a second time to close the OSD
- **FREEZE**: Freezes the display. Press a second time to unfreeze the display
- **MENU** and **–**: Press together to set the output to NTSC
- **ENTER** and **FREEZE**: Press together to set the output to PAL

5.2 Using the OSD

The OSD is used to set a variety of parameters.

When using the OSD, the front panel buttons operate in the following manner:

- **MENU**: Opens the OSD main menu (see Section 5.2.1). Press a second time to close the OSD
- **ENTER**: Selects the highlighted menu item or parameter
- **–** : Steps up through the menu list or decrements the parameter value
- **+** : Steps down through the menu list or increments the parameter value

Note: After a period of 15 sec with no button activity, the OSD menu times-out automatically.

Parameter Setting Example:

To set the green offset value of the display output to 42:

1. From normal operation, press MENU.
   The OSD main menu appears on the screen.

2. Press the + or **–** button to highlight COLOR.
   COLOR changes to green.

3. Press ENTER.
   The Display submenu is displayed.

4. Press the + or **–** button to highlight G OFFSET.
   G OFFSET changes to green.

5. Press ENTER.
   The G OFFSET parameter changes to red.

6. Press the + button to increase the value to 42.

7. Press ENTER to set the value.
   G OFFSET is highlighted in green.

8. To exit normal operation, press MENU.

5.2.1 The Main Menu

The following table defines the Main menu parameters and functions.

Parameter	Function
DISPLAY	Sets the output resolution, size and aspect ratio (see Section 5.2.2)
CONTRAST	Sets the output contrast; value range: 0-255, default: 105
BRIGHTNESS	Sets the output brightness; value range: 0-192, default: 96
COLOR	Sets the output color parameters (see Section 5.2.3)
SDI AUDIO	Selects which embedded audio to output: Group 1, Group 2, Group 3, Group 4, Auto, Off (audio is not outputted) Default: Auto When set to Auto, the unit searches for the lowest Group number which has audio and selects this audio Group
FACTORY RESET	Resets all parameters to factory defaults
INFORMATION	Displays current input resolution, output resolution and firmware revision
AUTO SYNC OFF	When on, this de-activates the output after a few minutes if no input is present When set to Auto, the unit searches for the lowest Group number which has audio and selects this audio Group
EXIT	Exits the Main menu

5.2.2 The Display Submenu

The Display submenu sets the display output resolution, size and aspect ratio.

The following table defines the display output parameters.

Parameter	Parameters	Factory Default
OUTPUT	PAL: 768x567i, NTSC: 720x480i	NTSC
SIZE	Sets the output size/aspect ratio: full, panscan, letterbox, under 2, under 1, overscan	Full
EXIT	Exits the display menu	

5.2.3 The Color Submenu

The Color submenu sets the display output color parameters. The following table defines the color output parameters.

Parameter	Function	Value Range	Factory Default
R	Sets the output red value	0-255	128
G	Sets the output green value	0-255	128
B	Sets the output blue value	0-255	128
R OFFSET	Sets the output red signal level offset	0-63	32
G OFFSET	Sets the output green signal level offset	0-63	32
B OFFSET	Sets the output blue signal level offset	0-63	32
EXIT	Exits the Color submenu		

6 Technical Specifications

INPUT:	1 SD/HD/3G HD-SDI on a BNC connector
OUTPUTS:	1 SD/HD/3G HD-SDI on a BNC connector (loop) 1 composite video on a BNC connector 1 Y/C (s-Video) on a 4-pin s-Video connector 1 unbalanced stereo audio on 2 RCA connectors
OUTPUT RESOLUTIONS:	PAL, NTSC
OUTPUT SIZE:	Full, Over scan, Under 1, Under 2, Letter box, Pan scan
PROCESSING DELAY:	30ms
CONTROLS:	Menu, ENTER, – and Freeze front panel buttons
POWER CONSUMPTION:	5V DC, 1.25A
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	-40° to +70°C (-40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	18.8cm x 11.3cm x 2.6cm (7.4” x 4.5” x 1”) W, D, H
WEIGHT:	0.57kg (1.26lbs) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-T2B 19" rack adapter
Specifications are subject to change without notice at http://www.kramerelectronics.com	

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

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IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at www.kramerelectronics.com or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.

For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-300013 Rev: 3